CLAIMS

What is claimed is:

1. A method for recording data in response to the firing of a weapon along a target line, comprising the steps of:

sensing at least one discharge of said weapon with a weapon discharge sensor and in response to each respective discharge of said weapon, generating a weapon discharge sensor output signal;

repeatedly storing video image data within a semiconductor memory within a video recording device mounted to said weapon;

in response to the detection of said weapon discharge sensor output signal, preserving in said semiconductor memory within said video recording device, video image data corresponding generally to an area surrounding said target line and corresponding to at least some of said video image data stored preceeding and subsequent to the weapon discharge sensor output signal corresponding to said at least one firing of said weapon.

2. The method of claim 1 wherein said weapon comprises a gun.

3. The method of claim 1 wherein said sensing step further comprises the step of sensing the discharge of said weapon with an accelerometer.

4. The method of claim 1 wherein said sensing step further comprises the step of sensing the discharge of said weapon with a microphone.

5. The method of claim 1 wherein said weapon includes a trigger operative to activate a switch and said sensing step further comprises the step of sensing the discharge of said weapon upon the sensing of a change of state of said switch.

6. The method of claim 1 wherein said storing step further comprises the steps of:

storing video image data comprising video frames within

semiconductor memory ~~from time to time~~;

in response to each one of said discharge sensor output signals, preserving within said semiconductor memory, video image data corresponding to at least one frame stored within said semiconductor memory prior to the respective discharge sensor output signal and video image data corresponding to at least one frame stored within said semiconductor memory subsequent to the respective discharge sensor output signal.

7. The method of claim 6 wherein said step of repeatedly storing video image data comprising video frames within said semiconductor memory ~~from time to time~~ comprises the step of storing said video frames within said semiconductor memory ~~substantially~~ periodically.

8. The method of claim 6 wherein said storing step comprises the step of storing said video image data associated with each discharge of said weapon in a portion of the semiconductor memory assigned for the respective discharge; and

preserving selected video image data associated with each discharge of said weapon.

9. The method of claim 8 wherein said portion of said semiconductor memory assigned for the storage of video data associated with each successive discharge of said weapon is smaller than the portion associated with the prior discharge of said weapon.

10. The method of claim 1 further comprising the steps of:

generating an audio signal with a microphone electrically coupled to said video recording device, wherein said audio signal is representative of sound within the vicinity of said weapon; and

sampling said audio signal with an analog to digital converter to produce a digital data comprising a digital representation of said audio signal; and

storing within said semiconductor memory at least some of said

digital data extending temporally around each discharge of said weapon.

11. The method of claim 10 further comprising the step of storing said digital data within said semiconductor memory employing a non-linear quantization technique for the representation of said data.

12. The method of claim 1 further comprising the steps of:

generating a signal with a holster state sensor having a first state when said weapon is within a holster and a second state when said weapon is not within said holster; and

storing said video data within said semiconductor memory only when said holster state sensor signal is in said second state.

13. The method of claim 1 wherein said repeatedly storing step further comprises the steps of:

storing video image data comprising video frames within a first semiconductor memory ~~from time to time~~;

in response to each one of said weapon discharge sensor output signals, reading selected video image data from said first semiconductor memory and writing said selected video image data to a second non-volatile semiconductor memory.

14. The method of claim 13 further comprising the step of preserving within said second semiconductor memory, said stored video image data at least until said video image data is read from said second semiconductor memory in response to a request from a user presenting a valid password to said video recording device.

15. The method of claim 1 further comprising the step of storing date and time information within said semiconductor memory in association with at least some of video image data.

16. A data recording device for preserving video image data representative of a video image corresponding to an area generally

surrounding the target line of a weapon, comprising:

a weapon discharge sensor operative to generate a weapon discharge sensor output signal upon at least one discharge of said weapon;

at least one semiconductor memory;

a video camera operative to repeatedly generate video image data representative of said video image; and

a controller operative to cause the storage of digital data representative of said video image data within said semiconductor memory at predetermined times both before and after the generation of said weapon discharge output signal;

said controller being further operative to preserve selected digital data stored in said at least one semiconductor memory in response to said weapon discharge sensor output signal.

17. The data recording device of claim 16 wherein said weapon comprises a gun.

18. The data recording device of claim 16 wherein said controller is operative to preserve at least some of said digital data stored within said at least one semiconductor memory prior to generation of said weapon discharge sensor output signal and some of said digital data stored within said semiconductor memory following detection of said weapon discharge sensor output signal.

19. The data recording device of claim 16 wherein said weapon discharge sensor comprises an accelerometer mechanically coupled to said data recording device.

20. The data recording device of claim 16 wherein said weapon discharge sensor comprises a microphone.

21. The data recording device of claim 20 wherein said weapon includes a trigger and said weapon discharge sensor comprises a switch coupled to said trigger of said weapon.

22. The data recording device of claim 21 wherein said controller is operative to cause the storage of said digital data within said at least one semiconductor memory ~~substantially~~ periodically.

23. The data recording device of claim 22 wherein said controller is operative to preserve digital data associated with each of said weapon discharge sensor output signals in a separate portion of said at least one semiconductor memory.

24. The data recording device of claim 16 wherein said at least one semiconductor memory comprises at least one dynamic random access memory.

25. The data recording device of claim 22 wherein said at least one semiconductor memory comprises at least one dynamic random access memory and a non-volatile memory, said controller is operative to store said digital data within said dynamic random access memory ~~substantially~~ periodically and said controller is further operative in response to said weapon discharge sensor output signal to cause selected digital data stored within said dynamic random access memory to be read from said dynamic random access memory and stored within said non-volatile memory.

26. The data recording device of claim 25 wherein said non-volatile memory comprises at least one flash memory.

27. The data recording device of claim 25 wherein said non-volatile memory comprises at least one bubble memory.

28. The data recording device of claim 25 wherein said non-volatile memory comprises an electrically erasable programmable random access memory.

29. The data recording device of claim 16 wherein said controller includes a bidirectional communications interface and said

controller is operative in response to receipt of a read command having a specified password on said interface to transmit digital data preserved within said at least one semiconductor memory over said interface.

30. The data recording device of claim 29 wherein said bidirectional communications interface comprises a bidirectional serial interface.

31. The data recording device of claim 16 further comprising an enable sensor coupled to said controller, wherein said enable sensor is operative to produce a signal having a first state when said weapon is disposed within a holster and said enable sensor is operative to produce a signal having a second state when said weapon is not disposed within said holster, and said controller is operative to cause the storage of said digital data within said at least one semiconductor memory only when said enable sensor signal is in said second state.

32. The data recording device of claim 31 wherein said enable sensor comprises a switch.

33. The data recording device of claim 32 wherein said switch comprises a magnetically actuatable switch.

34. The data recording device of claim 33 wherein said magnetically actuatable switch comprises a magnetically actuatable reed switch.

35. The data recording device of claim 16 further comprising:

a clock operative to generate date and time information;

a character generator operative to generate digital representations of said date and time information; and

said controller being operative to store at least some of said digital representations of said date and time information within

said at least one semiconductor memory in association with selected video image data.

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